

KODIAK MANAGEMENT AREA
COMMERCIAL FOOD/BAIT HERRING FISHERY
HARVEST STRATEGY
1996/97

By

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TABLE OF CONTENTS

| | <u>Page</u> |
|---|-------------|
| LIST OF TABLES..... | i |
| LIST OF FIGURES | i |
| INTRODUCTION | 1 |
| HARVEST STRATEGIES..... | 1 |
| KAMISHAK HERRING STOCKS | 2 |
| KODIAK FOOD/BAIT HARVEST STRATEGY | 3 |
| MANAGEMENT DISTRICTS..... | 4 |
| GUIDELINE HARVEST LEVELS | 4 |
| Kodiak Spawning Stocks | 4 |
| Kamishak Spawning Stocks..... | 4 |
| GHL Summary | 5 |
| REGULATIONS | 5 |
| Season Dates..... | 5 |
| Fishing Periods | 5 |
| Closed Waters..... | 5 |
| Interim Use and Registration Permits Required | 6 |
| Interim Use Permit..... | 6 |
| Registration Permit | 6 |
| Legal Gear Restrictions | 6 |
| EMERGENCY ORDER ANNOUNCEMENTS..... | 7 |
| REPORTS REQUIRED BY FISHERMEN | 7 |
| FISHER COOPERATION | 8 |
| TABLES | 9 |
| FIGURES | 12 |

LIST OF TABLES

| <u>Table</u> | <u>Page</u> |
|---|-------------|
| 1. Kodiak Management Area 1996/97 herring food/bait harvest strategy. A listing of guideline harvest levels by food/bait management districts | 9 |

LIST OF FIGURES

| <u>Figure</u> | <u>Page</u> |
|--|-------------|
| 1. Map of southcentral Alaska showing the Kodiak and Cook Inlet herring management areas, along with the location of Kamishak Bay and Shelikof Strait | 12 |
| 2. Kodiak food and bait herring management districts, (FB1, FB2, FB4, FB5, FB11, and FB12) which are affected by the harvest of Kamishak Bay herring | 13 |
| 3. Kodiak food and bait management area north of the latitude of Miner's Point which would be closed if the Kamishak Bay herring biomass is below 8,000 tons | 14 |
| 4. Kodiak Area food/bait herring fishery districts and key to enlarged maps (1-8) | 15 |
| 5. Map #1, food and bait herring districts 1, 2, 3, and 10, Kodiak Management Area | 16 |
| 6. Map #2, food and bait herring districts 4 and 5, Kodiak Management Area..... | 17 |
| 7. Map #3, food and bait herring district 7, Kodiak Management Area | 18 |
| 8. Map #4, food and bait herring district 8, Kodiak Management Area | 19 |
| 9. Map #5, food and bait herring district 9, Kodiak Management Area | 20 |
| 10. Map #6, food and bait herring district 11, Kodiak Management Area | 21 |
| 11. Map #7, food and bait herring districts 6 and 12, Kodiak Management Area | 22 |
| 12. Map #8, food and bait herring district 13, Kodiak Management Area | 23 |

INTRODUCTION

The Kodiak Management Area (KMA) food/bait herring fishery has a long history, dating back to 1912. Early harvests were primarily utilized for food and reduction products and harvests far surpassed current levels. Since, the early 1960's the harvest has been utilized primarily as bait for the crab and longline fisheries.

Food/bait herring fisheries occurring in the Shelikof Strait portion of the KMA target both Kodiak and Kamishak spawning stocks (Figure 1). Since the sac roe herring fisheries in the Kodiak and Cook Inlet areas are closed-to-entry fisheries, they are treated as primary fisheries. Fisheries are managed to provide for the majority of the harvest on the affected stocks to occur during the Kodiak and Kamishak sac roe season. The food/bait fishery on these stocks are subsequently treated as secondary fisheries. The associated harvest levels are directly related to the results of the sac roe fisheries of these stocks.

This harvest strategy will summarize regulations which are in affect and how this fishery will be managed.

HARVEST STRATEGIES

During the Alaska Board of Fisheries meeting held in Anchorage in November 1992 and in Kodiak in January 1993, new harvest strategies were adopted which direct the management of the KMA food/bait herring fishery. This is the fourth year this fishery will be managed under these harvest strategies. The two management plans which guide the KMA food/bait herring fishery are 5AAC 27.365, Kodiak Area Harvest Strategies, and 5AAC 27.465, the Kamishak Bay District Herring Management Plan.

The Kodiak plan allocates a harvest of herring equal to ten percent (10%) of the previous season's KMA sac roe harvest, by individual management section, to the KMA food/bait fishery. The Kamishak plan also allocates a harvest of herring to the Kodiak food/bait fishery, because it is known that Kamishak stocks overwinter in the KMA during the fishery, and have been traditionally taken in this fishery. The allocation allows for a maximum of two percent (2%) of the projected Kamishak biomass. The percent of the Kamishak biomass allocated to the KMA food/bait fishery depends on the annual estimated spawning biomass.

When both plans are combined, the total harvest within the Shelikof Strait Districts (the North Afognak, West Afognak, Uganik, Uyak, North Mainland, and Mid Mainland food/bait Districts) can not exceed the combined Kamishak allocation plus the food/bait guideline harvest levels (GHL) for the individual KMA stocks in the West Afognak, Uganik, and Uyak Districts. For the remainder of the KMA individual Section GHL's are set, based upon ten percent (10%) of the previous season's sac roe harvest.

For the 1996-97 season the Kamishak allocation is 200 tons, and the GHL for the West Afognak and Uganik Districts combined is 190 tons (the North Afognak and Uyak Districts will remain closed). Therefore when 390 tons is taken in the Shelikof Strait Districts (the North Afognak, West Afognak, Uganik, Uyak, North Mainland, and Mid Mainland food/bait Districts), these areas will close to further food/bait herring fishing. Individual Sections within the Shelikof area may close earlier, dependent on inseason evaluation of the actual fishery and stock abundance. For the remainder of the KMA the guideline harvest totals 143 tons. The Uyak, South Afognak, and Inner Marmot Districts will also remain closed.

KAMISHAK HERRING STOCKS

The 1995-96 Commercial Herring Fishing Regulations, Cook Inlet Area Section, lists the Kamishak Bay District Herring Management Plan (5AAC 27.465.) which outlines criteria for the management of the Kamishak Bay sac roe herring fishery and Shelikof Strait food/bait fishery as follows:

5 AAC 27.465 Kamishak Bay District Herring Management Plan.

- a) The purpose of the Kamishak Bay District herring management plan is to describe the management strategies used to set the guideline harvest levels for the Kamishak Bay sac roe fishery, and for that portion of the Kamishak Bay stock allocated to the food and bait fishery conducted in the North Afognak Island, West Afognak Island, Uganik, North Mainland, and Mid-Mainland food and bait management units of the Kodiak management area, known as the Shelikof Strait food and bait fishery, as described in (5 AAC 27.535(c)), (Figure 2).
- b) The management year for the Kamishak Bay herring stock is July 1 through June 30.
- c) The allocation of the allowable harvest of the Kamishak Bay herring stock is 90 percent to the Kamishak Bay sac roe fishery, and 10 percent to the Shelikof Strait food and bait fishery.
- d) The guideline harvest level for the fall Shelikof Strait food and bait fishery and the following spring Kamishak Bay sac roe fishery will be based on the projected biomass as determined by the most recent aerial surveys, age class composition, historical mortality, and recruitment trends.
- e) The maximum exploitation rate for the Kamishak Bay herring stock is 20 percent of the spawning biomass, and will be determined as follows:
 - 1) if the spawning biomass is 30,000 short tons or more, the maximum exploitation rate is 20 percent, with 18 percent allocated to the Kamishak sac roe fishery and 2 percent allocated to the Shelikof Strait food and bait fishery;
 - 2) if the spawning biomass is 20,000 short tons or more, but less than 30,000 short tons, the maximum exploitation rate is 15 percent, with 13.5 percent allocated to the Kamishak sac roe fishery and 1.5 percent allocated to the Shelikof Strait food and bait fishery;

- 3) if the spawning biomass is 8,000 short tons or more, but less than 20,000 short tons, the allowable exploitation rate is 10 percent, with 9 percent allocated to the Kamishak sac roe fishery and 1 percent allocated to the Shelikof Strait food and bait fishery;
 - 4) if the spawning biomass is less than 8,000 short tons, the Kamishak Bay sac roe fishery and the Shelikof food and bait fishery north of the latitude of Miner's Point will be closed, (Figure 3).
- f) The management strategy for the Kamishak sac roe fishery is to target the fishery on older age classes, and to limit exploitation rates on younger age class herring (age five and younger) to 10 percent or less.
 - g) The allocation of Kamishak Bay herring stocks to the Shelikof Strait food and bait fishery will be based on the spawning biomass of age five and older herring and not on the biomass of juveniles. The quantity of herring stocks aged four years and younger caught in the Shelikof Strait food and bait fishery will be adjusted to approximate the biomass of a similar number of age five herring.

KODIAK FOOD/BAIT HARVEST STRATEGY

The specific management plan which guides the KMA food/bait fishery is described in the Kodiak Area 1995-96 Commercial Herring Fishing Regulation 5 AAC 27.535. The 1996/97 Kodiak Harvest Strategy combines the Kamishak food/bait guideline harvest level (GHL) with the Kodiak GHL for the West Afognak, Uganik, and Uyak food/bait management districts. Most KMA herring stocks have dramatically increased over the past six years. Intermixing of the Kodiak and Kamishak herring stocks occurs during the winter months on the west side of the Kodiak Island group. Actual inseason management is guided by the following regulation:

5 AAC 27.535. HARVEST STRATEGIES.

- a) Except as otherwise provided in this section, the department shall manage the herring food/bait fishery so that the food/bait harvest does not exceed 10 percent of the actual Kodiak herring sac roe harvest in the previous season.
- b) The department shall manage the herring food/bait fishery in waters set out in the Afognak District (5 AAC 27.505 (a)(1)-(5)), in the Uganik District (5 AAC 27.505(b)) and Uyak District (5 AAC 27.505(c)) so that the total harvest does not exceed the sum of (1) the allowable harvest of the Kamishak spawning stock that overwinter in the Shelikof Strait as determined under the Kamishak Bay District herring management plan (5 AAC 27.465) and (2) GHL set for the food/bait fishery in these waters as provided in (c), (Figure 2).
- c) The GHL for the herring food/bait fishery in waters set out in the Afognak District (5 AAC 27.505 (a)(1)-(5)), Uganik District (5 AAC 27.505(b)) and Uyak District (5 AAC 27.505(c))

shall not exceed 10 percent of the herring sac roe harvest of the previous season in these waters.

- d) When the Kamishak Bay herring spawning biomass is below 8,000 short tons the department shall close the food/bait fishery in Shelikof Strait north of the latitude of Miner's Point, (Figure 3).

MANAGEMENT DISTRICTS

To accommodate this harvest strategy, thirteen (13) food/bait management districts are utilized to include geographical groupings of sac roe stocks and adjacent offshore areas.

Each food/bait management district consists of several sac roe herring fishery management units, Figures (4-12). Each food/bait management district GHL is based upon 10% of the total sac roe herring harvest which occurred within the food/bait management district boundaries.

GUIDELINE HARVEST LEVELS

The 1996-1997 food/bait G.H.L. for the KMA will be affected by the following management considerations:

Kodiak Spawning Stocks

For Kodiak spawning stocks, as described in 5 AAC 27.535(a) Harvest Strategies, the department shall limit the food/bait harvest to 10% of the previous spring's sac roe harvest on a stock by stock basis, (Table 1). Harvest levels on Kodiak stocks in the adjacent offshore areas will reflect the combined food/bait G.H.L. for the sac roe stocks included within that management district. A maximum of 333 tons properly distributed throughout the KMA will be the food/bait guideline harvest on Kodiak spawning stocks.

The herring stocks within Food/Bait Management Districts F/B 2 North Afognak, F/B 3 South Afognak, F/B 10 Inner Marmot (Figure 5), and the F/B 5 Uyak (Figure 6) have declined. The sac roe fishery has been closed the last two seasons and the food/bait fishery was closed last year for these districts. To prevent further exploitation on these depressed stocks, these districts will be closed to commercial food/bait herring fishing for the entire 1996-97 season.

Kamishak Spawning Stocks

Determination of the 1997 Kamishak spawning biomass is still under review. At this time the Area Biologists estimate that the allocation could well justify the preliminary 200 ton allocation to the KMA food/bait herring fishery. This allocation could potentially change, pending a final harvest projection for the Kamishak Bay sac roe fishery.

As discussed in 5 AAC 27.535(b) Harvest Strategies, the GHL's for the Kodiak food/bait management districts F/B 1 and F/B 4 will be combined with the Kamishak Bay herring allocation.

The Kamishak Bay GHL of 200 tons plus the Kodiak stock combined GHL's for food/bait units F/B 1 and F/B 4 of 190 tons, gives a combined GHL of 390 tons. When the 390 ton GHL is reached or approached, the following management districts will be closed collectively to further food/bait herring fishing, F/B 1, F/B 4, F/B 11, and F/B 12, Figure 2. Herring harvested in food and bait management units F/B 11 and F/B 12 are attributed to the Kamishak Bay GHL.

GHL Summary

| | | |
|----------------------------------|-----------------|-----------------------------|
| Shelikof Strait Fishery | 200 Tons | Kamishak Allocation |
| | <u>190 Tons</u> | Kodiak Stocks (F/B 1 and 4) |
| | 390 Tons | Total |
| Remainder of the Kodiak Area | 143 Tons | |
| Total for the entire Kodiak Area | 533 Tons | Total |

REGULATIONS

Season Dates

From August 1, 1996 through February 28, 1997.

Fishing Periods

Open to continuous fishing from 12:01 A.M. 8/1/96 to 12:00 P.M. 2/28/97 unless superseded by emergency order closures. However, if effort and harvest levels escalate, there may be a need to establish set fishing periods to maintain an orderly fishery. Changes in fishing periods will be made by an emergency order.

Closed Waters

The North Afognak F/B 2, South Afognak F/B 3, Uyak F/B 5, and the Inner Marmot F/B 10 food/bait herring districts are closed to commercial food/bait herring fishing for the entire 1996/97 season.

See CLOSED WATERS section in the 1995-96 Commercial Herring Fishing Regulations (page 57), 5 AAC 27.530.

Consult 1996-98 Commercial Salmon Fishing Regulations, (5 AAC 18.350), for a listing of closed waters for the Kodiak food/bait herring fishery for the period August 1 through October 31, 1996, pages 58-62.

Interim Use and Registration Permits Required

An Interim Use Permit is required before a registration permit will be issued. Interim use permits are issued from the Commercial Fisheries Entry Commission in Juneau for the following gear types:

- H01K Purse Seine
- H34K Gillnet
- H07K Trawl

Registration Permit - Kodiak ADF&G Office

- All fishers and processor/buyers are required to register with the Kodiak ADF&G office prior to fishing.

Registration Permit will be used for:

- Monitoring fleet size by gear type.
- Clarifying catch reporting procedures, closed water areas, and inseason emergency order announcement procedures.

Legal Gear Restrictions

Following are the gear restrictions by type for purse seine, gillnet, and trawl gear for the Kodiak Food/Bait Fishery.

Gear Code

- 01 - Purse Seines
 - Maximum length: 150 fathoms
 - Maximum depth: 1,625 meshes. For Area K there are no web size restrictions.
 - Lead length unrestricted.
- 34 - Gillnets
 - Maximum length: 150 fathoms; mesh size: 2-1/8" to 2-1/2".
 - No depth restrictions.
- 07 - Trawl
 - No restrictions

Consult the 1995-96 Commercial Herring Fishing Regulations for a complete listing of all regulations.

EMERGENCY ORDER (E.O.) ANNOUNCEMENTS

It is important for KMA food/bait fishers to be aware of emergency order management district closures. This can be accomplished by 1) personal contact with the Kodiak ADF&G management staff, via office visits or by calling 486-1830, 2) contacting Kodiak ADF&G management staff on SSB radio frequency 3.230 MHz, 3) contacting local herring processors, 4) calling the Kodiak ADF&G recorded message phone at 486-4559, 5) listening for an emergency order update which will be broadcasted at 8:00 A.M. and 6:00 P.M. after the marine weather on SSB radio frequency 4.125 MHz or 6) by picking up the most recent emergency order from the holder mounted outside the Kodiak ADF&G office.

The ADF&G vessel R/V K-Hi-C may be present on the fishing grounds and will initiate management unit closures once GHl's are achieved. The R/V K-Hi-C can be reached on VHF channel 6 or SSB radio frequency 3.230 MHz.. The crew of the R/V K-Hi-C will also contact fishers in person to inform them of closures and obtain harvest data.

REPORTS REQUIRED BY FISHERMEN

All herring landings during the food/bait season must be verbally reported to ADF&G before the product is totally unloaded at the dock.

The following phone numbers will reach Fish and Game personnel 24 hours per day:

- ADF&G Office: Monday through Friday
8:00 A.M. to 4:30 P.M. - 486-1807 or 486-1830.
- After Office Hours: 4:30 P.M. to 8:00 A.M.
 - 486-6007 (Dave Prokopowich)
 - 486-3031 (Dennis Gretschi)
 - 486-6475 (Kevin Brennan)

All fish tickets must be completed and sent to the Kodiak Fish and Game office within a week of the landing.

Send to: Alaska Department of Fish and Game
Commercial Fisheries Management and Development Division
ATTN: Dave Prokopowich
211 Mission Road
Kodiak, Alaska 99615

FISHER COOPERATION

Department personnel will conduct confidential skipper interviews to obtain biomass estimates, average school size, and herring distribution data. Additionally, fisher and processor cooperation will be appreciated when Department personnel request herring samples. These samples will be used to determine age composition, and length and weight characteristics of the commercial harvest.

Table 1. Kodiak Management Area 1996/97 herring food/bait harvest strategy. A listing of guideline harvest levels by food/bait management districts^a. (G.H.L. harvest numbers represent short tons).

| Food/Bait Mgmt. Dist. | Sac Roe Management Units | | 1996 Sac Roe | | 1996/97 Food/Bait |
|---|--------------------------|------------------------|--------------|---------|-------------------|
| | No. | Name | G.H.L. | Harvest | G.H.L. |
| F/B 1 West Afognak Unit | WA10 | Raspberry | 300 | 4 | 0 |
| | WA20 | Malina | 200 | 118 | 12 |
| | WA31 | Paramanof | 500 | 695 | 70 |
| | WA32 | Foul Bay | 150 | 124 | 12 |
| | WA40 | Blue Fox/Devil's Inlet | 30 | 3 | 0 |
| | WA50 | Offshore Afognak | Exploration | 0 | Exploration |
| UNIT TOTAL: | | | 1,180 | 944 | 94 |
| F/B 2 ^b North Afognak Unit | NA10 | Shuyak | 20 | 0 | Closed |
| | NA20 | Delphin Bay | Closed | 0 | Closed |
| | NA30 | Perenosa Bay | Closed | 0 | Closed |
| | NA40 | Seal Bay | Closed | 0 | Closed |
| | NA50 | Tonki Bay | Closed | 0 | Closed |
| | UNIT TOTAL: | | 20 | 0 | Closed |
| F/B 3 ^b South Afognak Unit | SA10 | Izhut Bay | Closed | 0 | Closed |
| | SA20 | Kitot Bay | Closed | 0 | Closed |
| | SA30 | McDonalds Lagoon | Closed | 0 | Closed |
| | SA40 | Danger Bay | Closed | 0 | Closed |
| | SA50 | Litnik | Closed | 0 | Closed |
| | SA60 | Duck Bay | Closed | 0 | Closed |
| UNIT TOTAL: | | | Closed | 0 | Closed |
| F/B 4 Uganik Unit | UG10 | Kupreanof | 10 | 0 | 0 |
| | UG20 | Viekoda Bay | 50 | 71 | 7 |
| | UG21 | Terror Bay | 250 | 117 | 12 |
| | UG30 | Village Islands | 250 | 333 | 33 |
| | UG31 | W. Uganik Passage | 40 | 36 | 4 |
| | UG32 | N.E. Arm Uganik | 30 | 10 | 1 |
| | UG33 | E. Arm Uganik | 125 | 113 | 11 |
| | UG34 | S. Arm Uganik | 180 | 283 | 28 |
| | UG40 | Offshore Uganik | Exploration | 0 | Exploration |
| UNIT TOTAL: | | | 935 | 963 | 96 |
| F/B 5 Uyak ^b Unit | UY10 | Offshore Uyak | Closed | 0 | Closed |
| | UY20 | Harvester Island | Closed | 0 | Closed |
| | UY30 | Inner Uyak | Closed | 0 | Closed |
| | UY32 | Browns Lagoon | Closed | 0 | Closed |
| | UY31 | Larsen Bay | Closed | 0 | Closed |
| | UY40 | Zachar Bay | Closed | 0 | Closed |
| UNIT TOTAL: | | | Closed | 0 | Closed |
| UNIT TOTAL: | | | Closed | 0 | Closed |

-Continued-

Table 1. (page 2 of 3)

| Food/Bait Mgmt. Dist. | Sac Roe Management Units | | 1996 Sac Roe | | 1996/97 Food/Bait |
|---|--------------------------|----------------------|--------------|---------|-------------------|
| | No. | Name | G.H.L. | Harvest | G.H.L. |
| F/B 6 Sturgeon/ Halibut Unit | SH10 | Sturgeon/Halibut | Exploration | | Exploration |
| F/B 7 Alitak Unit | AL10 | Outer Alitak | Exploration | 0 | Exploration |
| | AL20 | Inner Alitak | Exploration | 3 | 0 |
| | AL21 | Inner Deadman Bay | 40 | 13 | 1 |
| | AL22 | Outer Deadman Bay | 95 | 24 | 2 |
| | AL30 | Sulua Bay | 240 | 288 | 29 |
| | AL31 | Portage Bay | 75 | 76 | 8 |
| | AL40 | Lower Olga/Moser Bay | 15 | 2 | 0 |
| | AL41 | N. Upper Olga Bay | 10 | 0 | 0 |
| | AL50 | Upper Olga Bay | 40 | 10 | 1 |
| | AL60 | Geese/Twoheaded | 15 | 33 | 3 |
| UNIT TOTALS: | | | 530 | 449 | 44 |
| F/B 8 Eastside Unit | EA10 | Kaiugnak | 20 | 0 | 0 |
| | EA20 | S.W. Sitkalidak | 20 | 2 | 0 |
| | EA21 | Three Saints Bay | 40 | 47 | 5 |
| | EA22 | Newman Bay | 20 | 12 | 1 |
| | EA23 | W. Sitkalidak Strait | 275 | 72 | 7 |
| | EA24 | Barling Bay | 50 | 54 | 5 |
| | EA30 | E. Sitkilidak | 300 | 229 | 23 |
| | EA31 | Tanginak Anchorage | 15 | 1 | 0 |
| | EA40 | Outer Sitkalidak | Exploration | 0 | Exploration |
| | EA41 | Boulder Bay | Exploration | 21 | 2 |
| | EA42 | Shearwater Bay | 90 | 53 | 5 |
| | EA43 | Outer Kiliuda Bay | 90 | 104 | 10 |
| | EA44 | Inner Kiliuda Bay | 90 | 80 | 8 |
| | EA50 | Outer Ugak Bay | 60 | 54 | 5 |
| | EA51 | Inner Ugak Bay | 90 | 94 | 9 |
| | EA52 | Pasagshak | 30 | 0 | 0 |
| UNIT TOTAL: | | | 1,190 | 823 | 80 |
| F/B 9 Northeast Unit | NE10 | Womens Bay | 50 | 50 | 5 |
| | NE20 | Kalsin Bay | 10 | 4 | 0 |
| | NE30 | Middle Bay | 10 | 0 | 0 |
| | NE40 | Inshore Chiniak | 10 | 0 | 0 |
| | NE50 | Offshore Chiniak | Exploration | 0 | Exploration |
| UNIT TOTAL: | | | 80 | 54 | 5 |
| F/B 10 Inner Marmot ^b Unit | IM10 | Monashka/Mill Bay | Exploration | 0 | Closed |
| | IM20 | Anton Larsen Bay | Closed | 0 | Closed |
| | IM30 | Sharatin Bay | Closed | 0 | Closed |

-Continued-

Table 1. (page 3 of 3)

| Food/Bait Mgmt. Dist. | <u>Sac Roe Management Units</u> | | <u>1996 Sac Roe</u> | | <u>1996/97 Food/Bait</u> |
|--------------------------|---------------------------------|--------------------|---------------------|---------|--------------------------|
| | No. | Name | G.H.L. | Harvest | G.H.L. |
| | IM40 | Kizhuyak Bay | Closed | 0 | Closed |
| | IM50 | Spruce Island | 10 | 0 | Closed |
| UNIT TOTAL: | | | 10 | 0 | Closed |
| F/B 11 | NM10 | Hallo Bay | Exploration | 0 | Exploration |
| North | NM20 | Inner Kukak | 50 | 12 | 1 |
| Mainland | NM30 | Outer Kukak | Exploration | 0 | Exploration |
| Unit | NM40 | Inner/Outer Missak | Exploration | 0 | Exploration |
| UNIT TOTAL: | | | 50 | 12 | 1 |
| F/B 12 | MM10 | Inner Katmai | 50 | 63 | 6 |
| | MM20 | Outer Katmai | Exploration | 0 | Exploration |
| Mid-Mainland | MM30 | Alinchak | 40 | 20 | 2 |
| Unit | MM40 | Puale Bay | Exploration | 0 | Exploration |
| | MM50 | Portage Bay | Exploration | 0 | Exploration |
| | MM60 | Outer Portage Bay | Exploration | 0 | Exploration |
| UNIT TOTAL: | | | 90 | 83 | 8 |
| F/B 13 | SM10 | Wide Bay | 95 | 55 | 5 |
| South | SM20 | Lower Shelikof | Exploration | 0 | Exploration |
| Mainland Unit | | | | | |
| UNIT TOTAL: | | | 95 | 55 | 5 |
| GRAND TOTALS: | | | 4,180 | 3,383 | 333 |

^a The Kodiak Area total G.H.L. for food/bait fishery, as indicated in the 1995-96 Herring Regulations, is managed so that the food/bait harvest does not exceed 10% of the actual herring sac roe harvest in the previous season. This table reflects the available food/bait harvest for each sac roe stock or food/bait district, whichever applies. (See Harvest Strategy.) G-H-L and harvest figures are rounded to the nearest ton.

^b These management districts will be closed for the entire 1996/97 Food/Bait Herring season.

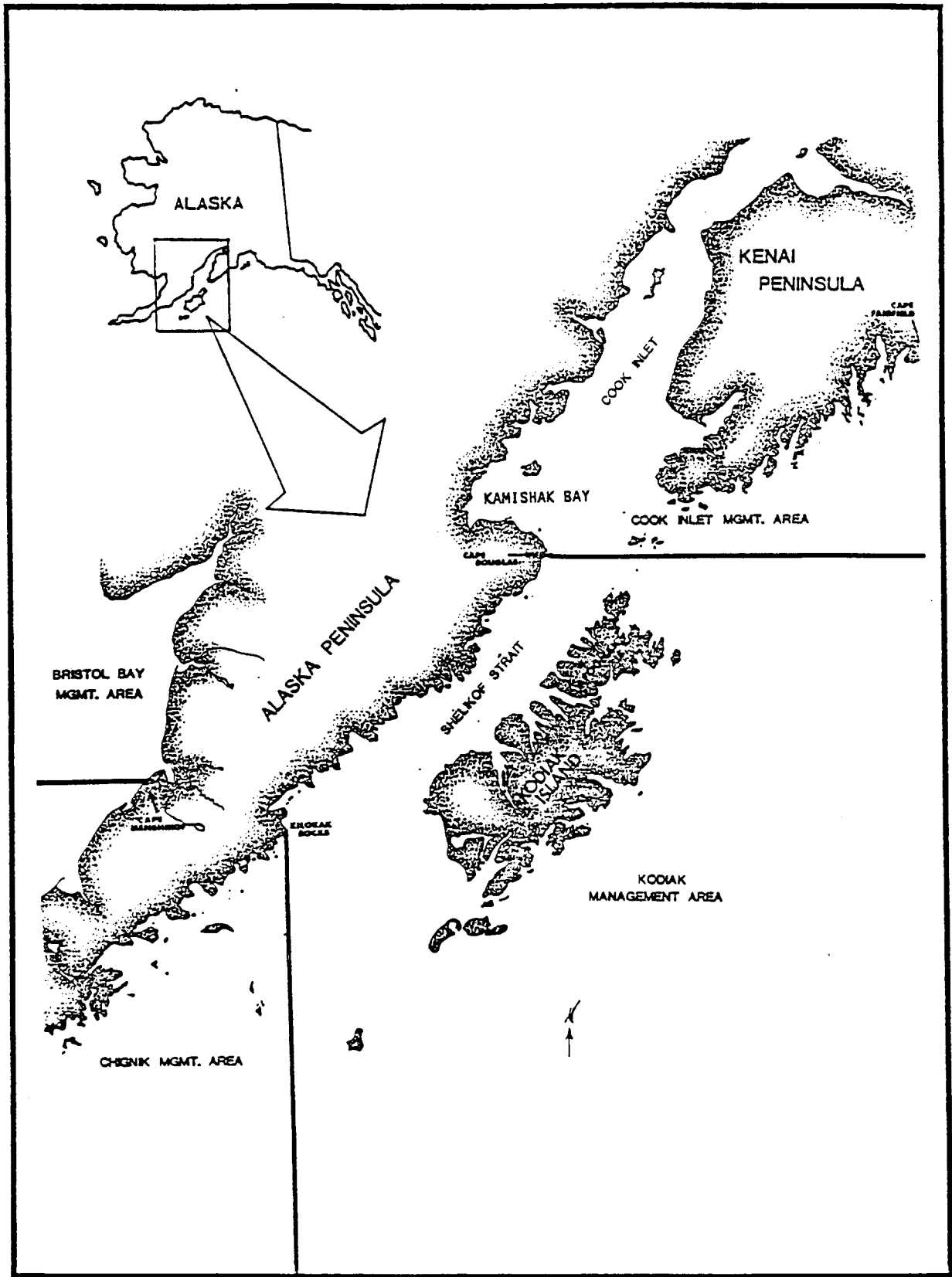


Figure 1. Map of southcentral Alaska showing the Kodiak and Cook Inlet herring management areas, along with the location of Kamishak Bay and Shelikof Strait.

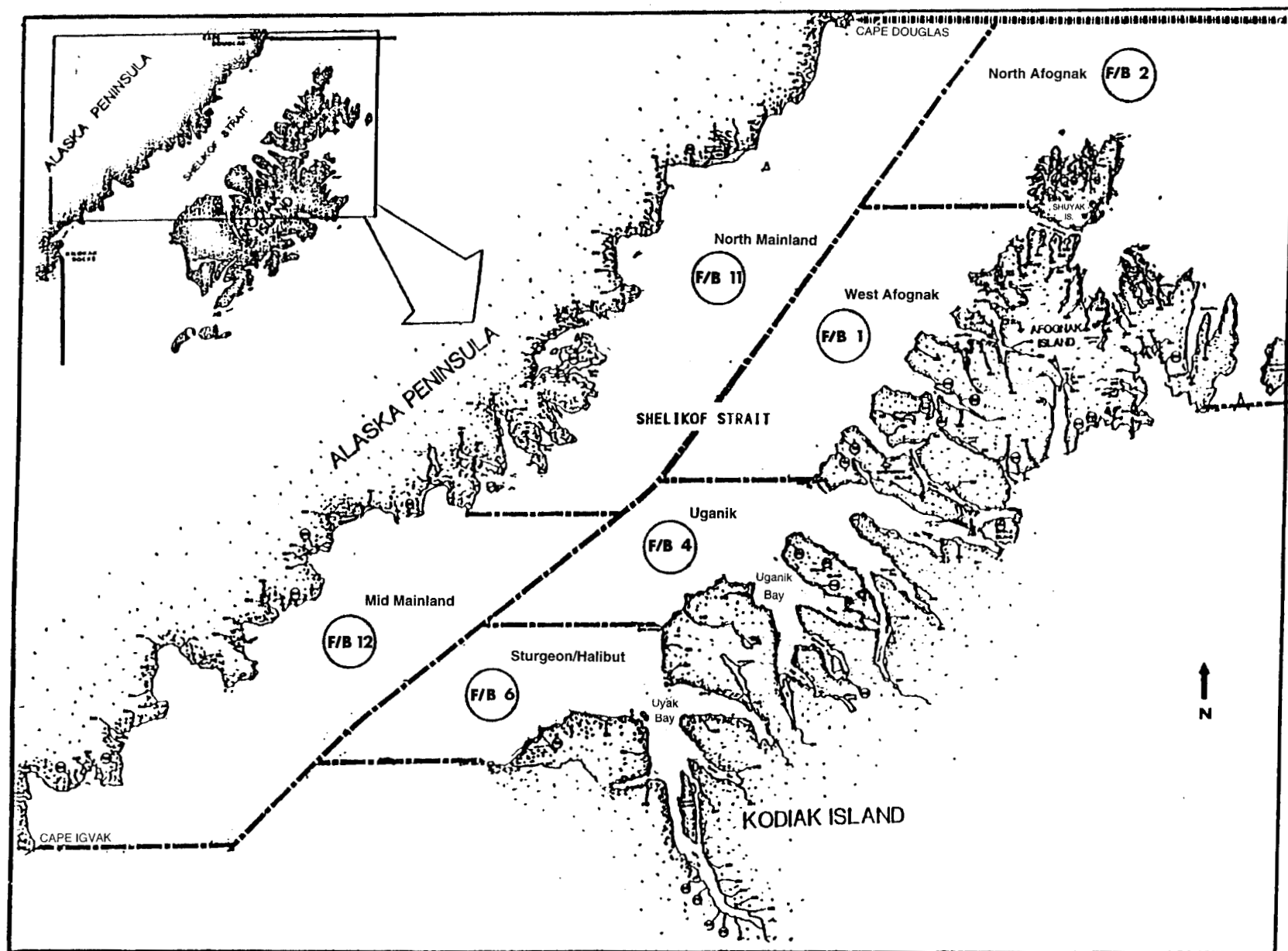


Figure 2. Kodiak food and bait herring management districts (F/B1, F/B2, F/B4, F/B5, F/B11, and F/B12) which are affected by the harvest of Kamishak Bay herring.

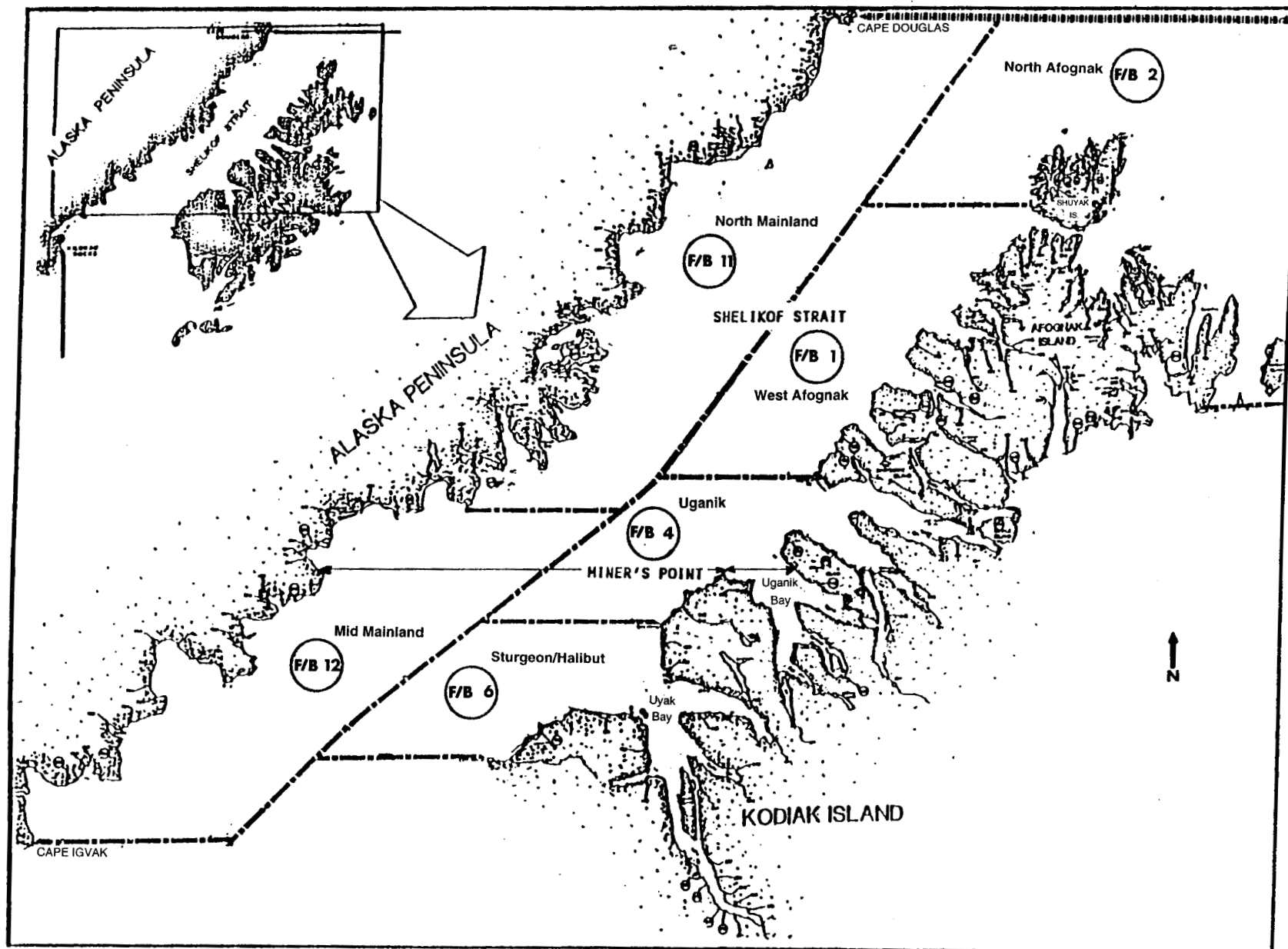


Figure 3. Kodiak food and bait management area north of the latitude of Miner's Point which would be closed if the Kamishak Bay herring biomass is below 8,000 tons.

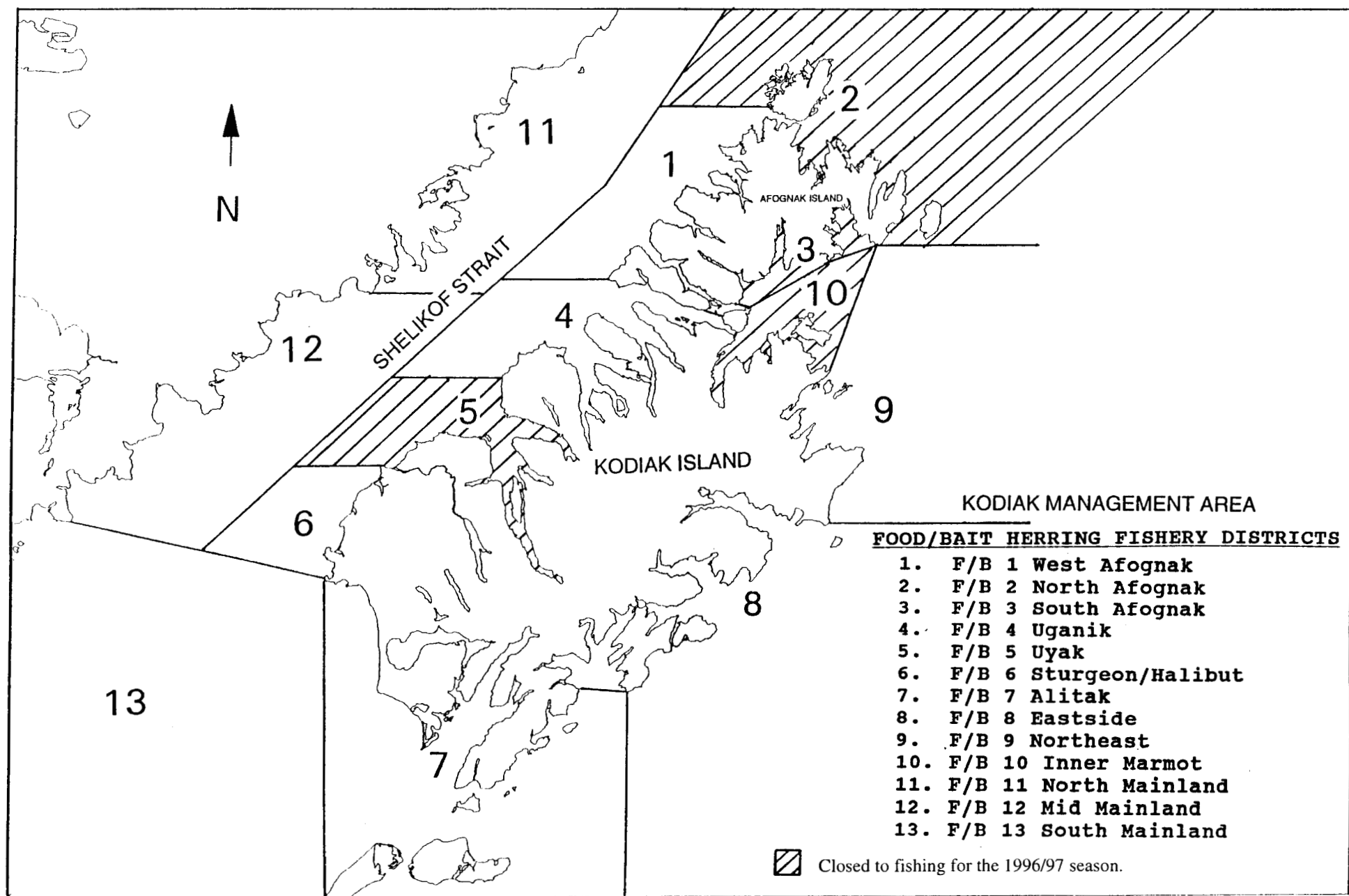


Figure 4. Kodiak Area food/bait herring fishery districts and key to enlarged maps. (1-8).

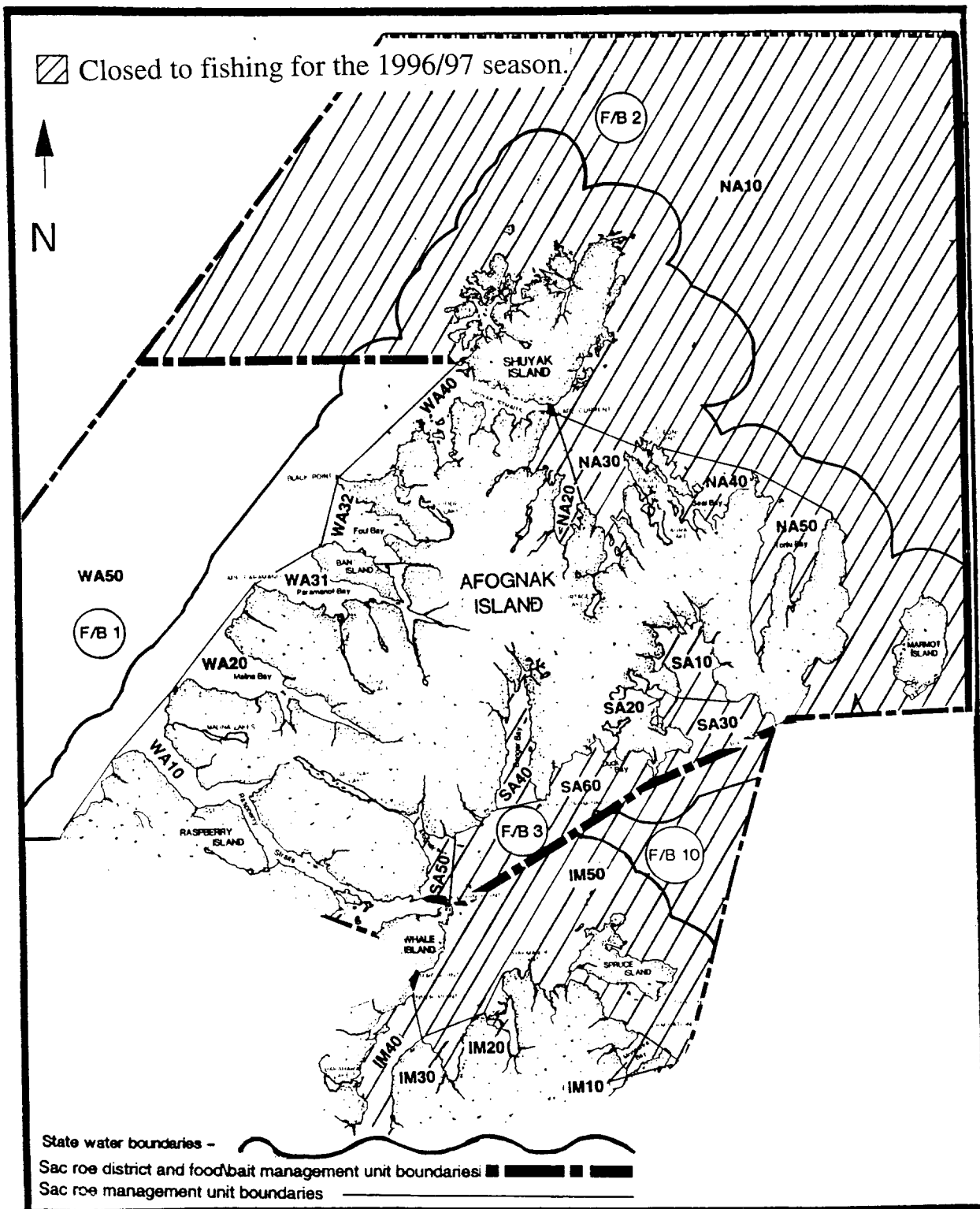


Figure 5. Map #1, food and bait districts 1, 2, 3, and 10, Kodiak Management Area.

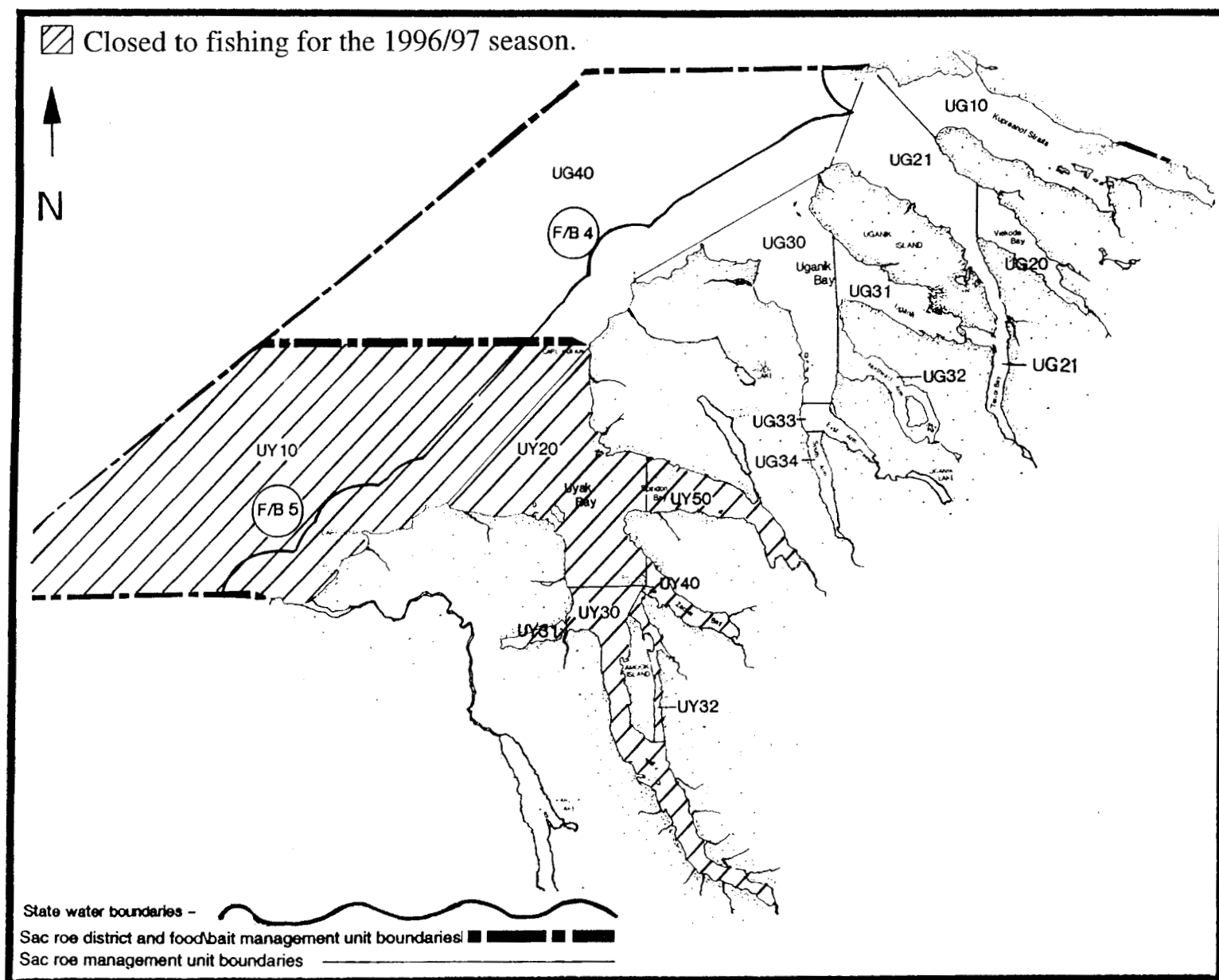


Figure 6. Map #2, food and bait herring districts 4 and 5, Kodiak Management Area.

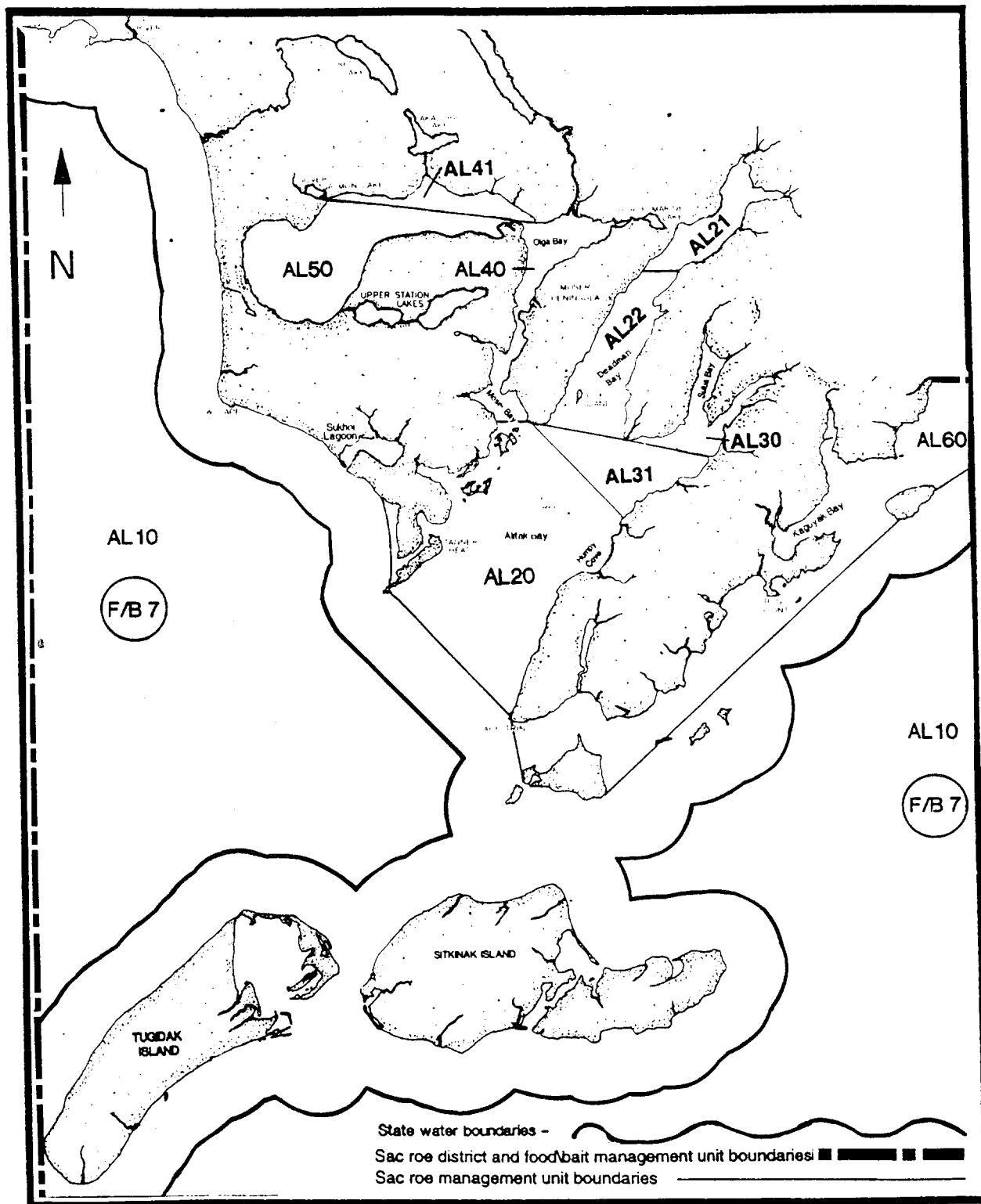


Figure 7. Map #3, food and bait herring district 7, Kodiak Management Area.

Figure 8. Map #4, food and bait herring district 8, Kodiak Management Area.

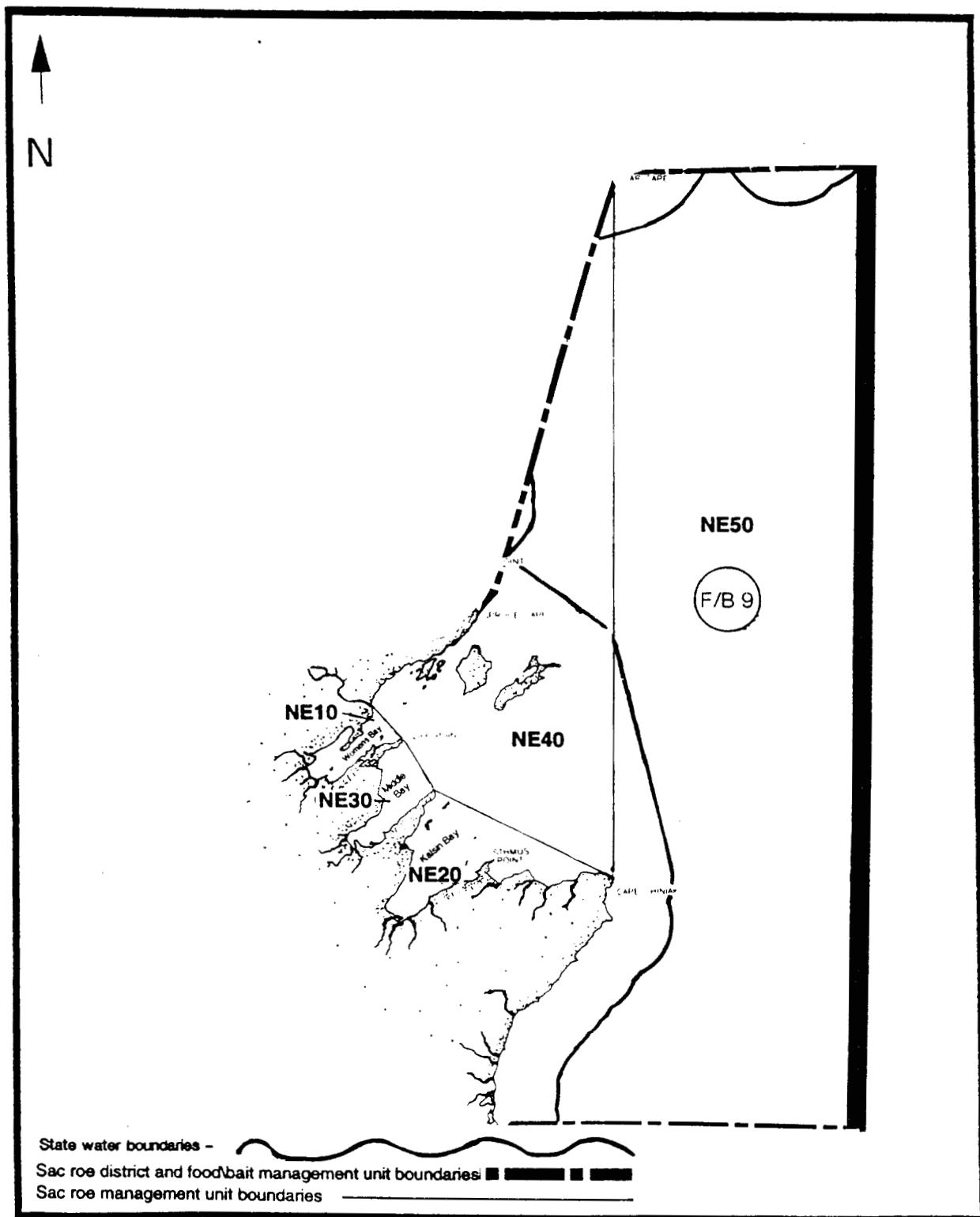


Figure 9. Map #5, food and bait herring district 9, Kodiak Management Area.

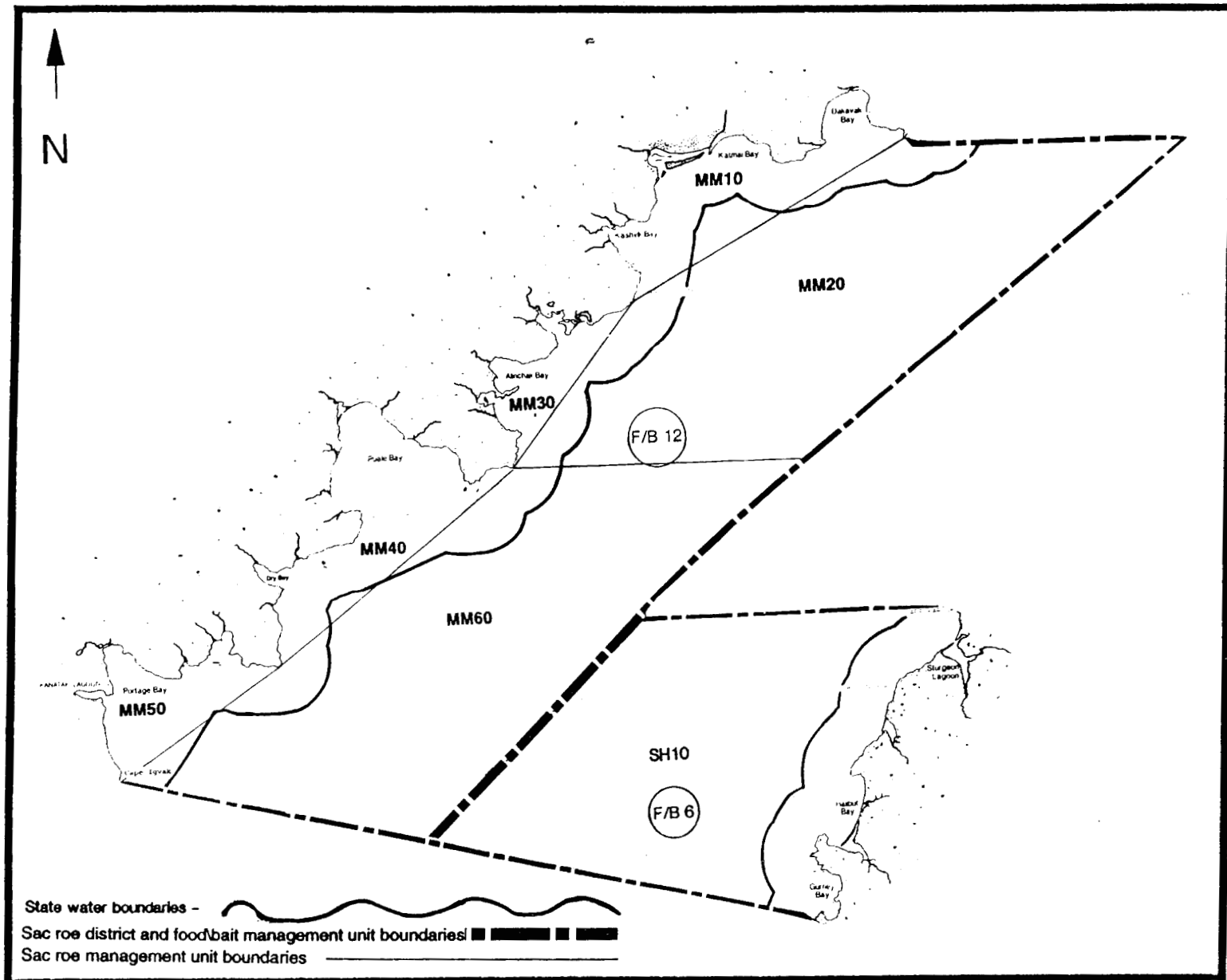


Figure 11. Map #7, food and bait herring districts 6 and 12, Kodiak Management Area.

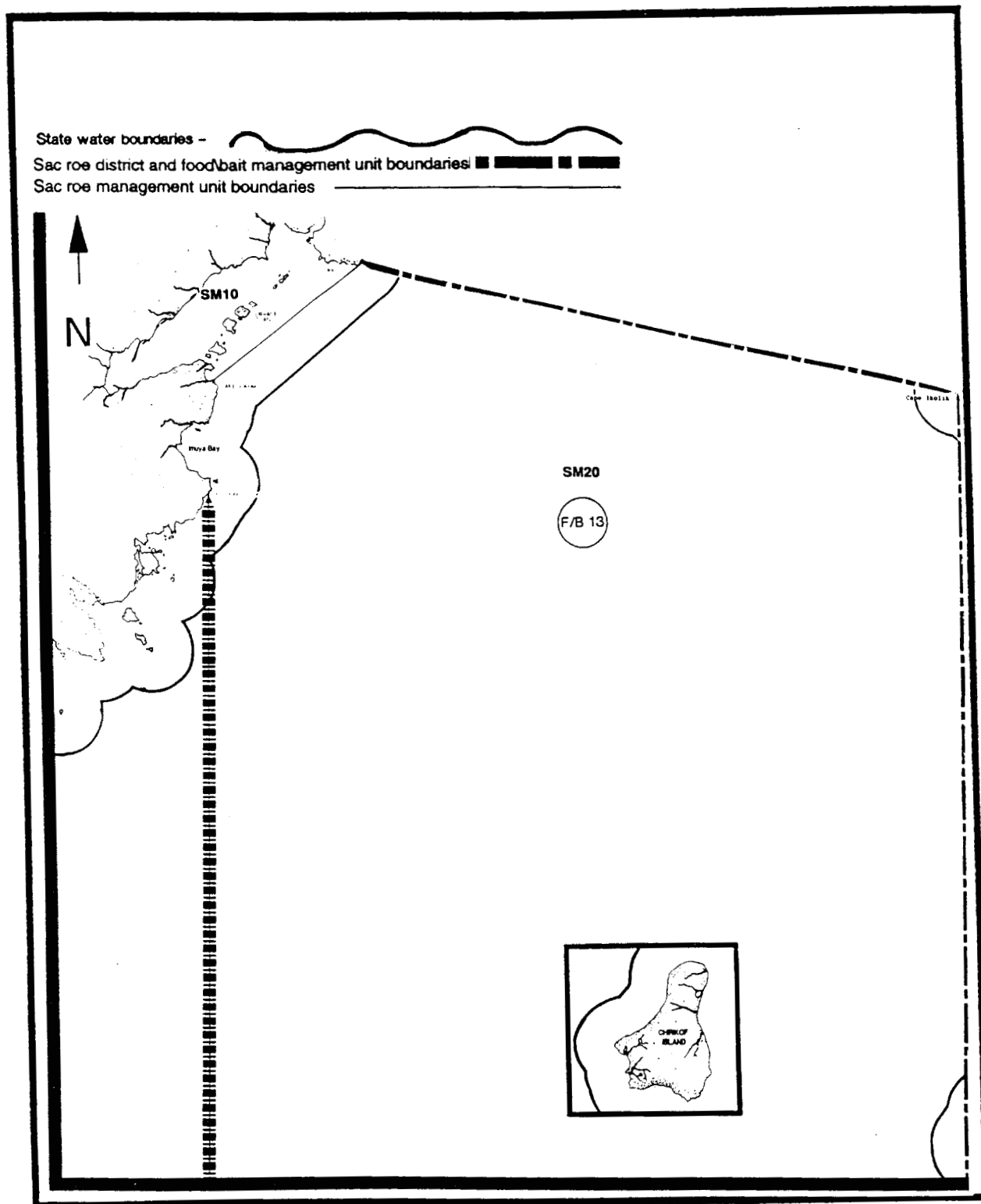


Figure 12. Map #8, food and bait herring district 13, Kodiak Management Area.

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